ABSTRACT OF THE DISCLOSURE

A method of constructing a halftone screen includes selecting a frequency and screen angle of interest. A subcell having spatial vectors which satisfy the selected frequency and screen angle of interest is identified. A supercell comprising an array of the subcells is formed. An integer relationship potentially having numerous solutions exists between the supercell and the subcell. The integer relationship is solved for values of the integers and then tested against the values for the subcell spatial vectors. Although the solution may in some cases be the null set, in many cases there will be numerous solutions. Each resulting solution, if any, is then tested according to any additional constraints or tolerances specified for the particular halftone screen. If any of the resulting supercell solutions satisfies the tests, that supercell may be used to create a halftone screen.